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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,887	STEINBERG ET AL.	
	Examiner	Art Unit	
	Gregory V. Madden	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed February 14, 2007 have been fully considered but they are not persuasive.

First, regarding claim 1, the Applicant has amended the claim to teach a method of determining and adjusting relative exposure or size, or both, of pixels corresponding to a face in a post-image capture process. The Applicant argues that the Ray et al. reference (U.S. Pat. 6,940,545) only teaches that the image exposure control corresponding to a face in the image is performed prior to capturing a digital image, and thus does not teach adjusting relative exposure in a post-image capture process. However, the Examiner respectfully disagrees. The Examiner interprets the capturing of the framing image (block 100 in Fig. 3) to be an image capture process, as opposed to the final imaging mode being the only image capture process, and thus the exposure control performed after the framing image is captured is considered to be an adjustment in a post-image capture process (Please refer to Col. 5, Line 6 – Col. 7, Line 65). Further, the Applicant argues that Ray only teaches the adjustment of overall exposure, as opposed to the adjustment of "relative" exposure, as set forth in Remarks, Pg. 16. Again, the Examiner respectfully disagrees, as Col. 7, Lines 51-65 of the Ray reference teaches that "the exposure control functionality provided by this patent can be confined to, or weighted for, a facial area located within the measuring window...". In this respect, the Examiner believes that the confining of exposure control to the facial area sufficiently teaches the adjustment of relative exposure, as claimed by the Applicant. For these reasons, the Examiner believes that the Ray reference teaches the limitations of Applicant's amended claim 1, as will be set forth more thoroughly in the rejections below.

Next, considering claims 14 and 36, the Applicant argues that the Ray reference only contemplates overall exposure and does not disclose a means for adjusting relative exposure of a face.

However, as noted above, Col. 7, Lines 51-65 of the Ray reference teaches that "the exposure control functionality provided by this patent can be confined to, or weighted for, a facial area located within the measuring window...", and thus teaches that adjustment of a "relative" exposure of a face. Further, the Examiner believes that Ray teaches the manual adjustment of the estimated importance of a detected region in Col. 7, Lines 12-16. Thus, claims 14 and 36 remain rejected in view of Ray et al., as will be set forth below.

As for claims 5-10, 18, 27-32, and 40, Applicant argues that the Sobol reference fails to teach the manual removal of faces, as claimed. However, as shown in Col. 5, Lines 3-4, Sobol teaches that the user may select, via an input device (39), the images to be cropped (i.e. manually removed). Thus, the Examiner believes that the Sobol reference, in combination with the Ray et al. reference, does teach the limitations of claims 5-10, 18, 27-32, and 40, and thus the claims remain rejected in view of Ray et al. in view of Sobol, as will be set forth below.

Finally, in regard to claims 6, 21, 28, and 43, the Applicant argues that Sobol does not suggest the manual removal of a false indication of a face. However, as similarly set forth above, Col. 5, Lines 3-4 of Sobol teaches the manual removal of faces, and thus the Examiner believes that Ray et al. in view of Sobol sufficiently teaches the limitations of claims 6, 21, 28, and 43.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 11-17, 19, 22- 24, 26, 33-39, 41, 42, and 44 rejected under 35 U.S.C. 102(e) as being anticipated by Ray et al. (U.S. Pat. 6,940,545).

First, in regard to **claim 1**, the Ray reference teaches that within a digital acquisition device (camera 10), a method of enhancing parameters (e.g. exposure) of a digital image as part of a post-image capture process (i.e. post frame-image capture) using face detection within the captured image to achieve desired image parameters, the method comprising determining default values of relative exposure of at least some portion of the digital image (e.g. determining "training data" corresponding to an image), determining the values of one or more camera acquisition parameters (i.e. exposure and flash determination, color balance, focus, etc.), identifying a plurality of groups of pixels that correspond to an image of a face within the digitally-captured image (referred to as face detection), and determining values corresponding to the relative exposure of the groups of pixels, comparing one or more values (training face values) with one or more values (from detected faces) of relative exposure based upon analysis of the image of the face, and adjusting, in a post-image capture process (i.e. post frame-image capture), the image parameters (i.e. adjusting the exposure) corresponding to adjusting the values of relative exposure. Please refer to Col. 4, Line 53 – Col. 7, Line 65, and Figs. 2-3.

As for **claim 2**, the limitations of claim 1 are taught above, and Ray further discloses that the method steps are performed in a digital still camera in Col. 4, Lines 15-29.

Considering **claim 4**, again the limitations of claim 1 are taught above, and the Ray reference teaches that the method includes determining and adjusting one or more values of relative exposure of the face, as is taught in Col. 7 Lines 45-65.

Regarding **claim 11**, Ray teaches the limitations of claim 1 above, and Ray further discloses that the face pixels identifying (face detection) is automatically performed by an image processing apparatus (CPU 30), but that the method further comprises manually adding an indication of another face within the image. Please refer to Col. 5, Lines 6-62, and Col. 7, Lines 2-21.

Next, in regard to **claim 12**, Col. 7, Lines 58-62, and Col. 11, Lines 8-67 of the Ray reference teaches that the face pixels identifying is automatically performed by the CPU 30 based on relative value as to a detection assurance (referred to as the "Component W")

As for **claim 13**, the limitations of claim 1 are taught above, and the Ray reference further discloses that identifying of face pixels (face detection) is automatically performed by an image processing apparatus (CPU 30), which receives a relative value as to an estimated importance of the detected regions (referred to as the Component S), which is set forth in Col. 14, Line 12 – Col. 15, Line 6.

Considering **claim 14**, the limitations of claim 13 are taught above, and Ray also teaches that the method further comprises manually modifying the relative value as to the estimated importance of the detected regions (e.g. the largest face in the scene is considered to be the primary subject), as is taught in Col. 7, Lines 63-65.

Next, regarding **claim 15**, as is similarly shown above with respect to claim 1, the Ray reference discloses a method of digital image processing using face detection to achieve a desired image parameter (which can be determined from training faces), the method comprising identifying a group of pixels that correspond to an image of a face within a digitally-detected image (face detection), determining initial values of relative exposure of at least some of the pixels, determining an initial relative exposure of the digitally-detected image of the face based on the initial values, and automatically adjusting values of the relative exposure of pixels within the digitally-detected image of the face (e.g. exposure control) based upon comparison of the initial relative exposure of the face with the desired relative exposure of the face. Please refer to Col. 4, Line 53 – Col. 7, Line 65 and Figs. 2-3.

In regard to **claim 16**, the limitations of claim 15 are taught above, and Ray further discloses that the method is performed in a digital still camera in Col. 4, Lines 15-29.

Considering **claim 17**, the limitations of claim 16 are taught above, and the Ray reference teaches that the method comprises determining one or more initial values of relative exposure of the face, and adjusting one or more values of relative exposure of the face. Please refer to Col. 7, Lines 45-65.

As for **claim 19**, Ray teaches the limitations of claim 16 above, and Ray further discloses that the face pixels identifying (face detection) is automatically performed by an image processing apparatus (CPU 30), but that the method further comprises manually adding an indication of another face within the image. Please refer to Col. 5, Lines 6-62, and Col. 7, Lines 2-21.

Regarding **claim 22**, again the limitations of claim 15 are taught above, and Ray further discloses that identifying of face pixels (face detection) is automatically performed by an image processing apparatus (CPU 30), but that the method further comprises manually adding an indication of another face within the image. Please refer to Col. 5, Lines 6-62, and Col. 7, Lines 2-21.

Next, considering **claim 23**, the Ray reference teaches that within acquisition device, with a processor readable storage device having processor readable code embodied thereon (memories 42 and 44 have code embodied thereon that is used by CPU 30 to perform face detection algorithm, as taught in Col. 4, Lines 53-55), the processor readable code for programming the processor to perform a method of enhancing parameters of a digital image as part of a post-image capture process using face detection within the captured image to achieve desired image acquisition parameters, the method comprising determining default values of relative exposure of at least some portion of the digital image (e.g. determining "training data" corresponding to an image), determining the values of one or more camera acquisition parameters (i.e. exposure and flash determination, color balance, focus, etc.), identifying a plurality of groups of pixels that correspond to an image of a face within the digitally-captured image (referred to as face detection), and determining values corresponding to the relative exposure of the groups of pixels, comparing one or more values (training face values) with one or more values (from detected faces) of relative exposure based upon analysis of the image of the face, and adjusting, in a post-

image capture process (i.e. post frame-image capture), the image parameters (i.e. adjusting the exposure) corresponding to adjusting the values of relative exposure of the face. Please refer to Col. 4, Line 53 – Col. 7, Line 65, and Figs. 2-3.

As for **claim 24**, the limitations of claim 23 are shown above, and Ray further discloses that the method is performed in a digital still camera in Col. 4, Lines 15-29.

In regard to **claim 26**, again the limitations of claim 23 are set forth above, and the Ray reference teaches that the one or more parameters (acquisition parameters) includes relative exposure of the face, as taught in Col. 7, Lines 45-65.

Considering **claim 33**, Ray teaches the limitations of claim 23 above, and Ray also teaches that the identifying of face pixels (face detection) is automatically performed by an image processing apparatus (CPU 30), but that the method further comprises manually adding an indication of another face within the image. Please refer to Col. 5, Lines 6-62, and Col. 7, Lines 2-21.

Next, in regard to **claim 34**, Col. 7, Lines 58-62, and Col. 11, Lines 8-67 of the Ray reference teaches that the identifying of face pixels is automatically performed by the CPU 30 based on relative value as to a detection assurance (referred to as the "Component W").

As for **claim 35**, the limitations of claim 23 are taught above, and the Ray reference further discloses that identifying of face pixels (face detection) is automatically performed by an image processing apparatus (CPU 30), which receives a relative value as to an estimated importance of the detected regions (referred to as the Component S), which is set forth in Col. 14, Line 12 – Col. 15, Line 6.

Considering **claim 36**, the limitations of claim 35 are taught above, and Ray also teaches that the method further comprises manually modifying the relative value as to the estimated importance of the detected regions (e.g. the largest face in the scene is considered to be the primary subject), as is taught in Col. 7, Lines 63-65.

Regarding **claim 37**, the Ray reference teaches processor readable storage devices (memories 42 and 44, as shown in Fig. 1 and taught in Col. 4, Lines 53-55) having processor readable code embodied thereon, the processor readable code for programming the processor (CPU 30) to perform a method of digital image processing using face detection to achieve a desired image parameter, the method comprising the steps of identifying a group of pixels that correspond to an image of a face within a digitally-detected image (face detection), determining initial values of relative exposure of at least some of the pixels, determining an initial relative exposure of the digitally-detected image of the face based on the initial values, and automatically adjusting values of relative exposure of pixels within the digitally-detected image of the face (e.g. exposure) based upon comparison of the initial relative exposure of the face with a desired relative exposure of the face. Please refer to Col. 4, Line 53 – Col. 7, Line 65 and Figs. 2-3.

Considering **claim 38**, the limitations of claim 37 are taught above, and Ray further discloses that the method steps are performed in a digital still camera in Col. 4, Lines 15-29.

As for **claim 39**, Ray teaches the limitation of claim 38 above, and the Ray reference teaches that the one or more parameters (acquisition parameters) includes relative exposure of the face, as taught in Col. 7, Lines 45-65.

In regard to **claim 41**, again the limitations of claim 38 are taught above, and Ray also discloses that the identifying of face pixels (face detection) is automatically performed by an image processing apparatus (CPU 30), but that the method further comprises manually adding an indication of another face within the image. Please refer to Col. 5, Lines 6-62, and Col. 7, Lines 2-21.

Regarding **claim 42**, the limitations of claim 37 are taught above, and the Ray reference teaches that the method includes determining and adjusting one or more values of relative exposure of the face, as is taught in Col. 7 Lines 45-65.

Finally, considering **claim 44**, again the limitations of claim 37 are taught above, and the Ray reference again teaches that the identifying of face pixels (face detection) is automatically performed by an image processing apparatus (CPU 30), but that the method further comprises manually adding an indication of another face within the image. Please refer to Col. 5, Lines 6-62, and Col. 7, Lines 2-21.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ray et al. (U.S. Pat. 6,940,545).

Considering both **claims 3 and 25**, the limitations of claims 1 and 23 are each taught above, and while the Ray reference does disclose that a digital imaging capturing apparatus (camera 10) performs the method of claims 1 and 23 (See Col. 4, Lines 15-36), the Ray reference does not specifically state that a digital video camera can perform the steps of the method set forth above. However, Official Notice is hereby taken that it would have been obvious to one of ordinary skill in the art to incorporate the method for achieving desired image acquisition parameters for a digital still camera, as taught by Ray, into a digital video camera. One would have been motivated to do so because a digital video camera simply captures a plurality of images in succession to create a moving image of a scene, and therefore the advantages to correcting image acquisition parameters (e.g. exposure control and focusing) based on detected faces is equally advantageous to that of a digital still camera. Correcting the image acquisition parameters for a digital video camera will enable the digital video to ideally capture the main subjects (i.e.

faces within the images). Since applicant did not traverse the Official Notice, the statement of common knowledge or well-known use of a digital video camera as opposed to a digital still camera, it is therefore taken to be admitted prior based on the requirement of MPEP § 2144.03(c).

Claims 5-10, 18, 21, 27-32, 40, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ray et al. (U.S. Pat. 6,940,545) in view of Sobol (U.S. Pat. 7,034,848).

Next, regarding **claim 5**, the Ray reference teaches that within a digital acquisition device (camera 10), a method of perfecting acquisition parameters (e.g. exposure, fill flash, etc.) of a digital image as part of an image capture process using face detection within the captured image to achieve desired image acquisition parameters, the method comprising determining default values of one or more image attributes of at least some portion of the digital image (e.g. determining "training data" corresponding to an image), determining the values of one or more camera acquisition parameters (i.e. exposure and flash determination, color balance, focus, etc.), identifying a plurality of groups of pixels that correspond to an image of a face within the digitally-captured image (referred to as face detection), and determining corresponding image attributes to the groups of pixels, comparing one or more default image attribute values (training face values) with one or more captured image attribute values (from detected faces) based upon analysis of the image of the face, and adjusting the camera acquisition parameters (i.e. adjusting the exposure and fill flash, the focusing, etc.) corresponding to adjusting the image attribute values. Please refer to Col. 4, Line 53 – Col. 7, Line 65 and Figs. 2-3. While Ray does disclose that the method comprises manually adding an indication of another face within the image, as taught in Col. 5, Lines 6-62, and Col. 7, Lines 2-21, the Ray reference is silent in regard to manually removing one or more of the plurality of groups of pixels that correspond to the image of a face. However, the Sobol reference teaches in Col. 5, Lines 3-4 and Col. 7, Lines 30-62 that an image of a face can be manually removed from the scene. It would have been obvious to one of ordinary skill in the art at

the time the invention was made to have incorporated removing one or more of a plurality of groups of pixels corresponding to a face, as taught by Sobol, with the manual control of choosing the plurality of groups of pixels, as taught by Ray. One would have been motivated to do so because as it is advantageous for the user to be able to add an indication of a face in order to determine desired image acquisition parameters, it would be equally advantageous to remove the indications of a face (or faces) that are either erroneously detected or that the user does not want to factor into the calculation of the desired image acquisition parameters.

As for **claim 6**, the limitations of claim 5 are taught above, and the Sobol reference again teaches in Col. 7, Lines 30-62 that the removal of regions of faces is performed in response to false detection of regions as faces.

Considering **claim 7**, again the limitations of claim 5 are taught above, and again Col. 7, Lines 30-62 of the Sobol reference teaches that the method is performed in response to a determination to concentrate on less of the image faces (e.g. a smaller area of faces, or no faces on the periphery of the image) than faces identified in the identifying.

Next, in regard to **claim 8**, the limitations of claim 5 are taught by Ray in view of Sobol, and the Ray reference also teaches that the false detection of faces can be avoided by increasing a sensitivity level (i.e. using Component S detection, as set forth in Col. 14, Line 12 – Col. 15, Line 5) of the face identifying, which is also taught in Col. 13, Lines 48-51.

Regarding **claim 9**, again the limitations of claim 5 are taught above, and the Ray reference teaches that the manual manipulation of the chosen faces is performed by an interactive visual method, as taught in Col. 7, Lines 12-21.

As for **claim 10**, the limitations of claim 5 are taught above, and the Ray reference also teaches that the manual manipulation of the chosen faces can performed using an image acquisition built-in display (touch sensitive screen and stylus, etc.), also taught in Col. 7, Lines 12-21.

Next, considering **claim 18**, the limitations of claim 16 are taught above by the Ray reference, and while Ray does disclose that the method comprises manually adding an indication of another face within the image, as taught in Col. 5, Lines 6-62, and Col. 7, Lines 2-21, the Ray reference is silent in regard to manually removing one or more of the plurality of groups of pixels that correspond to the image of a face. However, the Sobol reference teaches in Col. 7, Lines 30-62 that an image of a face can be manually removed from the scene. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated removing one or more of a plurality of groups of pixels corresponding to a face, as taught by Sobol, with the manual control of choosing the plurality of groups of pixels, as taught by Ray. One would have been motivated to do so because as it is advantageous for the user to be able to add an indication of a face in order to determine desired image acquisition parameters, it would be equally advantageous to remove the indications of a face (or faces) that are either erroneously detected or that the user does not want to factor into the calculation of the desired image acquisition parameters.

Similarly, in regard to **claim 21**, the Ray reference discloses a method of digital image processing using face detection to achieve a desired image parameter (which can be determined from training faces), the method comprising the steps of identifying a group of pixels that correspond to an image of a face within a digitally-detected image (face detection), determining initial values of one or more parameters of at least some of the pixels, determining an initial parameter of the digitally-detected image based on the initial values, and automatically adjusting values of one or more parameters of pixels within the digitally-detected image (e.g. exposure and flash, focusing, etc.) based upon comparison of the initial parameter with the desired parameter. Please refer to Col. 4, Line 53 – Col. 7, Line 65 and Figs. 2-3. While Ray does disclose that the method comprises manually adding an indication of another face within the image, as taught in Col. 5, Lines 6-62, and Col. 7, Lines 2-21, the Ray reference is silent in regard to manually removing one or more of the plurality of groups of pixels that correspond to the image of a face.

However, the Sobol reference teaches in Col. 5, Lines 3-4 and Col. 7, Lines 30-62 that an image of a face can be manually removed from the scene. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated removing one or more of a plurality of groups of pixels corresponding to a face, as taught by Sobol, with the manual control of choosing the plurality of groups of pixels, as taught by Ray. One would have been motivated to do so because as it is advantageous for the user to be able to add an indication of a face in order to determine desired image acquisition parameters, it would be equally advantageous to remove the indications of a face (or faces) that are either erroneously detected or that the user does not want to factor into the calculation of the desired image acquisition parameters.

Regarding **claim 27**, the Ray reference teaches that within acquisition device, with a processor readable storage device having processor readable code embodied thereon (memories 42 and 44 have code embodied thereon that is used by CPU 30 to perform face detection algorithm, as taught in Col. 4, Lines 53-55), the processor readable cod for programming the processor to perform a method of perfecting acquisition parameters of a digital image as part of an image capture process using face detection within the captured image to achieve desired image acquisition parameters, the method comprising determining default values of one or more image attributes of at least some portion of the digital image (e.g. determining "training data" corresponding to an image), determining the values of one or more camera acquisition parameters (i.e. exposure and flash determination, color balance, focus, etc.), identifying a plurality of groups of pixels that correspond to an image of a face within the digitally-captured image (referred to as face detection), and determining corresponding image attributes to the groups of pixels, comparing one or more default image attribute values (training face values) with one or more captured image attribute values (from detected faces) based upon analysis of the image of the face, and adjusting the camera acquisition parameters (i.e. adjusting the exposure and fill flash, the focusing, etc.) corresponding to adjusting the image attribute values. Please refer to Col. 4, Line 53 – Col. 7, Line

65 and Figs. 2-3. While Ray does disclose that the method comprises manually adding an indication of another face within the image, as taught in Col. 5, Lines 6-62, and Col. 7, Lines 2-21, the Ray reference is silent in regard to manually removing one or more of the plurality of groups of pixels that correspond to the image of a face. However, the Sobol reference teaches in Col. 5, Lines 3-4 and Col. 7, Lines 30-62 that an image of a face can be manually removed from the scene. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated removing one or more of a plurality of groups of pixels corresponding to a face, as taught by Sobol, with the manual control of choosing the plurality of groups of pixels, as taught by Ray. One would have been motivated to do so because as it is advantageous for the user to be able to add an indication of a face in order to determine desired image acquisition parameters, it would be equally advantageous to remove the indications of a face (or faces) that are either erroneously detected or that the user does not want to factor into the calculation of the desired image acquisition parameters.

As for **claim 28**, the limitations of claim 27 are taught above, and the Sobol reference again teaches in Col. 5, Lines 3-4 and Col. 7, Lines 30-62 that the manual removing of one or more detected faces is performed in response to false detection of regions as faces.

Considering **claim 29**, again the limitations of claim 27 are taught above, and again Col. 7, Lines 30-62 of the Sobol reference teaches that the method is performed in response to a determination to concentrate on less of the image faces (e.g. a smaller area of faces, or no faces on the periphery of the image) than faces identified in the identifying.

Next, in regard to **claim 30**, the limitations of claim 27 are taught by Ray in view of Sobol, and the Ray reference also teaches that the false detection of faces can be avoided by increasing a sensitivity level (i.e. using Component S detection, as set forth in Col. 14, Line 12 – Col. 15, Line 5) of the face identifying, which is also taught in Col. 13, Lines 48-51.

Regarding **claim 31**, again the limitations of claim 27 are taught above, and the Ray reference teaches that the manual manipulation of the chosen faces is performed by an interactive visual method, as taught in Col. 7, Lines 12-21.

As for **claim 32**, the limitations of claim 27 are taught above, and the Ray reference also teaches that the manual manipulation of the chosen faces can performed using an image acquisition built-in display (touch sensitive screen and stylus, etc.), also taught in Col. 7, Lines 12-21.

In regard to **claim 40**, the limitations of claim 38 are taught above, and while Ray does disclose that the method comprises manually adding an indication of another face within the image, as taught in Col. 5, Lines 6-62, and Col. 7, Lines 2-21, the Ray reference is silent in regard to manually removing one or more of the plurality of groups of pixels that correspond to the image of a face. However, the Sobol reference teaches in Col. 7, Lines 30-62 that an image of a face can be manually removed from the scene. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated removing one or more of a plurality of groups of pixels corresponding to a face, as taught by Sobol, with the manual control of choosing the plurality of groups of pixels, as taught by Ray.

Considering **claim 43**, the Ray reference teaches processor readable storage devices (memories 42 and 44, as shown in Fig. 1 and taught in Col. 4, Lines 53-55) having processor readable code embodied thereon, the processor readable code for programming the processor (CPU 30) to perform a method of digital image processing using face detection to achieve a desired image parameter, the method comprising the steps of identifying a group of pixels that correspond to an image of a face within a digitally-detected image (face detection), determining initial values of one or more parameters of at least some of the pixels, determining an initial parameter of the digitally-detected image based on the initial values, and automatically adjusting values of one or more parameters of pixels within the digitally-detected image (e.g. exposure and flash, focusing, etc.) based upon comparison of the initial parameter with the desired parameter. Please refer to Col. 4, Line 53 – Col. 6, Line 55 and Figs. 2-3. While Ray

does disclose that the method comprises manually adding an indication of another face within the image, as taught in Col. 5, Lines 6-62, and Col. 7, Lines 2-21, the Ray reference is silent in regard to manually removing one or more of the plurality of groups of pixels that correspond to the image of a face. However, the Sobol reference teaches in Col. 5, Lines 3-4 and Col. 7, Lines 30-62 that an image of a face can be manually removed from the scene. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated removing one or more of a plurality of groups of pixels corresponding to a face, as taught by Sobol, with the manual control of choosing the plurality of groups of pixels, as taught by Ray.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ray et al. (U.S. Pat. 6,940,545) in view of Kinjo (U.S. Pat. 7,106,887).

Finally, in regard to **claim 20**, the limitations of claim 15 are taught by the Ray reference above, but Ray fails to specifically teach that one of the parameters includes determining one or more initial values of size of the face, and adjusting one or more values of size of the face. However, noting the Kinjo reference, Kinjo teaches a method of digital image processing using face detection (face extraction), wherein an initial value of size of the face is determined (in identifying a certain person in the scene), and adjusting the values of size of the face (i.e. slimming the face according to processing specific to the identified person). Please refer to Figs. 2 and 3, and Col. 8, Lines 14-17, Col. 9, Line 46 – Col. 10, Line 37, and Col. 11, Lines 3-23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the adjusting of values of size of the face, as taught by Kinjo, with the adjusting of image parameters of Ray. One would have been motivated to do so because, as Kinjo teaches in Col. 1, Lines 16-21, enabling the adjustment of the values of the size of the face allows the user to alter the image to their specific preference, therefore providing a customized image to the user.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory V. Madden whose telephone number is 571-272-8128. The examiner can normally be reached on Mon.-Fri. 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Madden
April 27, 2007

NGOC-YEN VU
SUPERVISORY PATENT EXAMINER